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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/423,436	11/09/1999	HIROSHI KANAYAMA	991238	6727

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[REDACTED] EXAMINER

LAVILLA, MICHAEL E

[REDACTED] ART UNIT

PAPER NUMBER

1775

18

DATE MAILED: 05/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. <b>09/423,436</b>	Applicant(s) <b>KANAYAMA ET AL.</b>	
	Examiner <b>LA VILLA</b>	Art Unit <b>1775</b>	

*— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.  
 If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.  
 If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.  
 Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).  
 Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)  Responsive to communication(s) filed on Feb 14, 2002  
 2a)  This action is FINAL.      2b)  This action is non-final.  
 3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

**Disposition of Claims**

4)  Claim(s) 1, 2, 4-7, and 9-12 is/are pending in the application.  
 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5)  Claim(s) \_\_\_\_\_ is/are allowed.  
 6)  Claim(s) 1, 2, 4-7, and 9-12 is/are rejected.  
 7)  Claim(s) \_\_\_\_\_ is/are objected to.  
 8)  Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9)  The specification is objected to by the Examiner.  
 10)  The drawing(s) filed on \_\_\_\_\_ is/are a)  accepted or b)  objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 11)  The proposed drawing correction filed on \_\_\_\_\_ is: a)  approved b)  disapproved by the Examiner.  
     If approved, corrected drawings are required in reply to this Office action.  
 12)  The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)  Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a)  All b)  Some\* c)  None of:  
     1.  Certified copies of the priority documents have been received.  
     2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
     3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \*See the attached detailed Office action for a list of the certified copies not received.

14)  Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
 a)  The translation of the foreign language provisional application has been received.

15)  Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)      4)  Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_  
 2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)      5)  Notice of Informal Patent Application (PTO-152)  
 3)  Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_      6)  Other: \_\_\_\_\_

## DETAILED ACTION

### ***Specification***

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o).  
Correction of the following is required: Applicant's newly amended language in Claims 1 and 2 with respect to "area adjacent" in discussing the silver and tin solid-dissolved in copper alloy does not appear to find antecedent support in the Specification. As well, applicant's negative limitation discussed in the section 112, first paragraph rejection immediately below does not find support.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:
  3. The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
  4. Claims 1, 2, 4-7, and 9-12 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In Claims 1 and 2, Applicant's recitation of "a second layer that is not directly adjacent to said backing metal" is new matter, as it comprises a negative limitation without antecedent support in the originally filed Specification. Ex parte Grasselli, 231 USPQ 393, 394 (PTO Bd. App. 1983).

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:
6. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
7. Claims 1, 2, 4-7, and 9-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- I. Regarding Claim 1, it is unclear what is meant by the phrase "wherein Ag and Sn are solid-dissolved the copper alloy . . ." There may be one or more missing words.
- II. Applicant's Claim 1 now claims a copper alloy that consists essentially of Ag, Sn and a balance that consists essentially of Cu, wherein the respective ranges in amounts of Ag and Sn are specified. It is unclear what alloys this language encompasses. Is it a copper alloy that consists essentially of Ag, Sn, and Cu having the claimed ranges of Ag and Sn? Were only the first provided "consists essentially of" present, this would be the interpretation. However, in view of the second provided "consists essentially of," that this meaning should be the interpretation is unclear. Is it a copper-based alloy that consists essentially of Ag, Sn, and Cu having the claimed ranges of Ag and Sn? Is it something else? Applicant's Claim 2 calls for a copper alloy that contains Ag, Sn, at least one additive element, and a balance that

consists essentially of Cu, where the respective ranges in amounts of Ag, Sn, and at least one additive element are specified. It is unclear whether this is open or closed composition language. To say that the alloy contains the listed ingredients implies that any other ingredients could also be present, but the later "consists essentially of" language implies some limitation on the composition. Is this composition to be copper based or something else? Is the composition to consist essentially of the listed ingredients or something else?

- III. Regarding Claims 1 and 2, it is unclear what is the relationship, if any, between the "area adjacent" said roughened surface and the claimed first and second layers. In view of the apparent lack of antecedent support for this language, the interpretation of its meaning is unclear.
  
- IV. Regarding Claim 2, in the last "wherein" clause, it is unclear what is the antecedent basis of the phrase "said additive element." Previously, reference is made to "at least one additive element." If more than one additive element is present, it is unclear what is the claimed component for each of the claimed components. For example, would there be a hexagonal compound of solid dissolved Ag, Sn, and all additive elements simultaneously or would there be a multiple hexagonal compounds of solid dissolved Ag, Sn, and each respective

additive element, or would there be needed only one hexagonal compound of solid dissolved Ag, Sn, and one of the additive elements?

***Response to Amendment***

- V. In view of applicant's amendments and arguments, applicant traverses the section 112, first paragraph rejection with respect to the roughened and grooved surface of the Office Action mailed on 26 September 2002. Rejection is withdrawn.
- VI. In view of applicant's amendments and arguments, applicant traverses the section 112, first paragraph rejection with respect to the manner of forming the claimed alloyed structure of the Office Action mailed on 26 September 2002. Rejection is withdrawn.
- VII. In view of applicant's amendments and arguments, applicant traverses the section 112, first paragraph rejection with respect to the negative limitation describing the position of a sub-layer of the Office Action mailed on 26 September 2002. To the extent that applicant seeks to derive support for the negative limitation language from Figure 2, as suggested by applicant's remarks, the limitation appears to be new matter. To equate a bi-layered structure directly on a substrate with a first layer adjacent the substrate and a second layer that is to be not directly adjacent the substrate would appear to be new matter. The

claimed relationship would apparently not require that the first layer is closer than the second to the substrate, would not require that the first layer is directly bonded to the substrate or that the second layer is directly bonded to the first layer. Absent alternative support elsewhere in the Specification, Figure 1 appears to demand these relationships in describing the layers. That the claimed language would encompass the depicted bi-layer does not by mean that the claimed arrangement was envisaged as applicant's invention at the time of filing. Applicant has not pointed to other support in the Specification for a second layer that is not directly adjacent the substrate, as claimed in the proposed amendment. Thus, the rejection appears to be appropriate.

- VIII. In view of applicant's amendments and arguments, applicant traverses the section 112, first paragraph rejection with respect to the matrix composition of the Office Action mailed on 26 September 2002.  
Rejection is withdrawn.
  
- IX. In view of applicant's amendments and arguments, applicant traverses the section 112, second paragraph rejections of the Office Action mailed on 26 September 2002. All section 112, second paragraph rejections are withdrawn except for those pertaining to the alloy composition for the reasons given above. Upon applicant's making

clear what applicant intends to encompass by these descriptions, the rejections may be withdrawn.

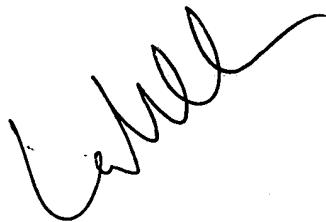
***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
9. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is (703) 308-4428. The examiner can normally be reached on Monday through Friday.
11. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (703) 308-3822. The fax phone

numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

12. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Michael La Villa  
May 5, 2003

A handwritten signature in black ink, appearing to read "Michael La Villa".